CLAIMS (Clean Version):

1. A system for providing a breathable fire-extinguishing environment for fire prevention and fire suppression in enclosed areas, said system comprising:

an enclosing structure having internal environment therein containing a gas mixture which is lower in oxygen content than air outside said structure, and an entry communicating with said internal environment;

an oxygen-extraction device having an inlet taking in an intake gas mixture and first and second outlets, said first outlet transmitting a first gas mixture having a higher oxygen content than the intake gas mixture and said second outlet transmitting a second gas mixture having a lower oxygen content than the intake gas mixture;

said second outlet communicating with said internal environment and transmitting said second mixture to said internal environment so that said second mixture mixes with the air in the internal environment;

said first outlet transmitting said first mixture to a location where it does not mix with the air in the internal environment;

said internal environment selectively communicating with the outside atmosphere and emitting excessive internal gas mixture into outside atmosphere;

said internal environment being a breathable hypoxic air composition in human visited or occupied areas having oxygen content ranging from 12% to 18%.

2. The system according to claim 1 and

said intake gas mixture is ambient air intaken outside said internal environment.

3. The system according to claim 1 and

said oxygen-extraction device employing molecular-sieve adsorption technology in order to extract part of oxygen from said intake gas mixture.

4. The system according to claim 1 and

said oxygen-extraction device employing membrane separation technology in order to extract part of oxygen from said intake gas mixture

5. The system according to claim 1 and

said enclosing structure being area selected from the group consisting of, but not limited to: rooms and enclosures for data processing and process control equipment, telecommunication switches and Internet servers; banks and financial institutions, museums, archives, libraries and art collections; dwellings, military and marine facilities; aircraft, space vehicles and space stations, marine and cargo vessels; industrial processing and storage facilities operating with inflammable and explosive materials and compositions, and other industrial and non-industrial facilities that require fire safe environment.

6. The system according to claim 1 and

said internal environment having climate control.

7. A fire prevention and suppression system for providing low-oxygen atmosphere for industrial and non-industrial applications comprising:

an enclosed area comprising a door and wall structure defining a closed space which is accessible through the door, said door being selectively closable so that when closed, the area is substantially isolated from the outside environment;

a gas processing device having an intake and first and second outlets, said device taking in ambient air through said intake and emitting a reduced-oxygen gas mixture, having a lower concentration of oxygen than ambient air, through said first outlet and enriched-oxygen gas mixture, having a greater concentration of oxygen than ambient air, through said second outlet;

said first outlet being connected with said area so that reduced oxygen gas mixture is emitted into said closed space inside said area;

said gas processing device comprising an air pump and an air separation module receiving ambient air from the intake, said air separation module having a reduced oxygen mixture conduit and an enriched oxygen mixture conduit;

said first outlet being operatively associated with said reduced oxygen mixture conduit and

receiving said reduced oxygen gas mixture therefrom, said second outlet being operatively associated with said enriched oxygen mixture conduit and receiving said enriched oxygen gas mixture therefrom and releasing said mixture into the outside environment;

said reduced oxygen gas mixture emitting from said area in amounts necessary to equalize atmospheric pressure inside said area with outside atmospheric pressure;

said reduced oxygen gas mixture inside said area having oxygen content ranging from 12% to 18%;

said gas mixture having fire retarding capacity and being safe for human respiration.

8. The system according to claim 7 and

said reduced oxygen gas mixture inside said area being recycled by a split air-conditioning system in order to control its temperature and humidity.

said gas mixture having fire retarding capacity and being safe for human respiration.

9. The system according to claim 7 and

said air separation module being hypoxic generator employing molecular-sieve adsorption material and pressure-swing adsorption technology in order to extract part of oxygen from ambient air and supply oxygen depleted product.

10. The system according to claim 7 and

said air separation module being oxygen concentrator using pressure-swing adsorption technology.

11. The system according to claim 7 and

said air separation module being oxygen concentrator using membrane air-separation technology.

12. The system according to claim 7 and

said air separation module being nitrogen generator using pressure-swing adsorption technology.

13. The system according to claim 7 and

said air separation module being nitrogen generator using membrane air-separation technology.

14. A system for providing a breathable fire-extinguishing atmosphere for human occupied environments, said system comprising:

an enclosed space having said breathable fire-extinguishing atmosphere inside that is provided by an apparatus consisting of:

a compressor and an air separation device having an intake and first and second outlets, said device taking in compressed air provided by said compressor through said intake and emitting a reduced-oxygen gas mixture having a lower concentration of oxygen than said gas mixture through said first outlet and enriched-oxygen gas mixture having a greater concentration of oxygen than said gas mixture through said second outlet;

said intake being connected to a distribution valve providing distribution of compressed air to multiple inlets communicating each with an individual separation container filled with a molecular sieve material that under pressure adsorbs nitrogen and water vapors, allowing enriched-oxygen gas mixture to pass through into a gas collecting tank communicating with said second outlet and being operatively associated with all said separation containers and receiving said enriched-oxygen gas mixture therefrom;

each said separation container being pressurized and depressurized in cycling manner and releasing during each depressurization cycle said reduced-oxygen gas mixture being delivered into said first outlet;

said breathable fire-extinguishing atmosphere being a mixture of nitrogen, oxygen and other atmospheric gases at atmospheric pressure being ambient for location of use;

said mixture having oxygen content above 12% but below 18%;

said mixture having nitrogen content above 82% but not exceeding 87.6%.

15. The system according to claim 14 and

said second outlet having release valve allowing to keep said enriched-oxygen gas mixture being collected in said gas collecting tank under increased atmospheric pressure, so when any of said separation containers depressurizes, a portion of said enriched-oxygen gas mixture is released from said tank back into said container purging said molecular sieve material from remaining nitrogen and water.

16. The system according to claim 14 and

said distribution valve being air distribution device selected from the group consisting of electrical, mechanical, air piloted and solenoid valves, both linear and rotary configuration, with actuators controlled by pressure, mechanical spring, motor and timer.

17. The system according to claim 14 and

said distribution valve being mounted on manifold that is selectively communicating with said multiple separation containers and said first outlet, and selectively allowing periodic access of pressurized air inside said containers and exit of said reduced-oxygen gas mixture therefrom.

18. The system according to claim 1 and

said composition being oxygen depleted air with oxygen content ranging from 15% to 17%.